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ABSTRACT

The 1976 supplement presents higher education price index data for fiscal years 1971 through 1976. The basic study, "Higher Education Prices and Price Indexes" (ED 123 996) presents complete descriptions of the indexes together with index values and price data for fiscal years 1961 through 1974. Indexes are presented for research and development, professional salaries, faculty salaries and fringe benefits, administrator salaries, nonprofessional salaries, contracted services, hardcover books and periodicals, building construction and equipment, and average resident undergraduate student charges. Some data are presented according to institutional type and control. (MSE)

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Higher Education Prices and Price Indexes

1976 Supplement

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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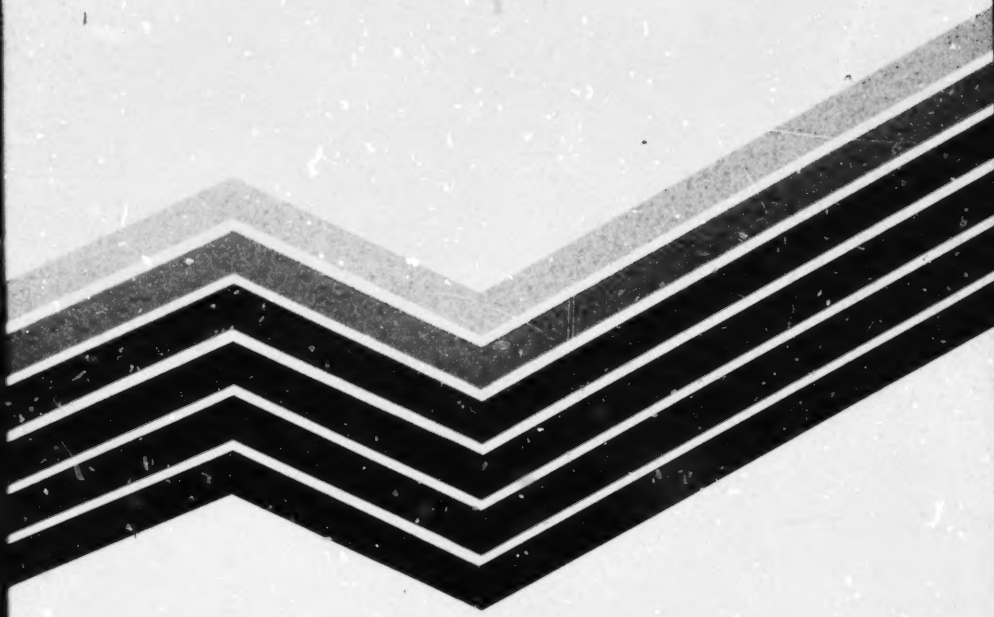
Higher Education Prices and Price Indexes

1976 Supplement

by

D. Kent Halstead



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Contents

	Page
INTRODUCTION	1
Publication Information	1
Brief Explanation of Price Indexes and Their Use	1
BRIEF DESCRIPTION OF INDEXES	4
Higher Education Price Index	4
Research and Development Price Index	6
Boeckh Construction Index	7
Capital Equipment Index	8
Construction and Equipment Index	8
Student Charges Data	9
PRICE TRENDS	9
Current Operations	12
Research and Development	13
New Construction and Capital Equipment	15
Student Consumer Prices	15

TABLES

Table 1.—Higher Education Price Index and major component subindexes, fiscal years 1971–76	19
Table 2.—Research and Development Price Index and major component subindexes, fiscal years 1971–76	20
Table 3.—Subindexes of salaries of professional personnel used for the HEPI and R&DPI, fiscal years 1971–76	21
Table 4.—Indexes and dollar amounts of faculty salaries and fringe benefits, by academic rank, fiscal years 1971–76	22

TABLES—Continued

Page

Table 5.—Annual salaries of administrative officers in colleges and universities, fiscal years 1972–76 24

Table 6.—Subindexes of wages and salaries of nonprofessional personnel used for the HEPI and R&DPI, fiscal years 1971–76 25

Table 7.—Subindexes of contracted services used for the HEPI and R&DPI, fiscal years 1971–76 26

Table 8.—Average prices and indexes for U.S. hardcover books and periodicals, and foreign monographs, fiscal years 1971–76 27

Table 9.—Price indexes of building construction and capital equipment purchased by colleges and universities, fiscal years 1971–76 28

Table 10.—Fixed weight average resident undergraduate student charges and indexes, by institutional type and control, fiscal years 1967, 1974–77 29

APPENDIX—PRICE INDEXES BY INSTITUTIONAL TYPE AND CONTROL 33

INTRODUCTION

Publication Information

This *1976 Supplement* presents higher education price index data for fiscal years 1971 through 1976. The supplement is published yearly shortly after the fiscal year to which the latest data refer. The index values refer to the entire year, not any specific month of the year.

The basic study, *Higher Education Prices and Price Indexes*,[1] presents complete descriptions of the indexes together with index values and price data for fiscal years 1961 through 1974. The study includes a discussion of index number theory and computation, explains the uses and limitations of price indexes, and describes the effects of inflation on "real expenditures" for current operations, research and development, and physical plant additions for 1961–74. Users of higher education price indexes should consult this study for the complete technology of index theory and design, and for earlier price series listings.

Brief Explanation of Price Indexes and Their Use

A price index series measures the effects of price *change*, and price change only, on a fixed group of items. The procedure in calculating the index is to measure price change by repricing each year and comparing aggregate costs of the goods and

[1] D. Kent Halstead, *Higher Education Prices and Price Indexes*, U.S. Department of Health, Education, and Welfare, Office of Education, U.S. Government Printing Office, 1975. Order by Stock Number 017–080–01418–1 for $1.90 from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

services bought in the base period.[2] The *amount* and *quality* of the selected commodities that comprise the market basket being indexed must remain *constant* so that only the effects of price changes are reflected. Under these restrictive conditions, the change in price index values from year to year may be interpreted as the change in dollars required to offset the effects of inflation in buying the same kinds and amounts of goods and services previously purchased.

The indexes reported here measure price changes from a designated reference date—1967—which equals 100.0. An index value of 115.0, for example, represents a 15 percent increase over 1967 values. This change can also be expressed in dollars. The price of $100 dollars worth of goods and services purchased in 1967 has risen to $115. Movements of the index from one year to another are usually expressed as percent changes by dividing the difference in index values from one year to the next by the earlier year's index value. Thus an increase in index values from 125.6 to 134.4 would be a yearly increase of (134.4−125.6)/125.6=7.0%.

A price index compiled and published regularly can serve the following uses:

(1) Index values may be *projected* into the future to estimate the degree of change in expenditure levels that will be necessitated by any anticipated price changes. If price increases are expected, the projected index values are used to "inflate" expected "real resource" needs to equal actual dollar future funding requirements.

(2) Past *expenditures* may be compared with movements in a price index to ascertain whether spending has kept pace with price level changes. Adjusting expenditures by an appropriate price index to convert "actual" or "current" dollars to "constant" dollars permits comparison over time of the real purchasing power of funding levels.

[2] For the Higher Education Price Index (HEPI) and the Research and Development Price Index (R&DPI), the base period at which time the composition of the market basket of goods and services was determined is fiscal year 1972. (See table A).

(3) Similar to (2), dollar *incomes* may be "deflated" by a price index to identify trends in the level of real purchasing power of funding by various sources.

(4) Price indexes may be used to provide automatic "inflation adjustment" of various administrative and contractual transactions. The price charged a particular service, for example, may be "tied" to input prices or the "cost of labor" as measured by an appropriate price index.

BRIEF DESCRIPTION OF INDEXES

Higher Education Price Index

The Higher Education Price Index (HEPI) (table 1) measures average *changes* in prices of goods and services purchased by colleges and universities through current-fund educational and general expenditures. Educational and general operations include the functions of instruction and departmental research, extension and public service, educational programs such as workshops and instructional institutes supported by sponsors outside the institution, student services, general administration and expenses, staff benefits, libraries, and operation and maintenance of the physical plant. Sponsored research and auxiliary enterprises are *not* priced by the HEPI.

The HEPI is based on the prices (or salaries) of faculty (table 4); administrators and other professional service personnel (tables 3 and 5); clerical, technical, service, and other nonprofessional personnel (table 6); and contracted services (table 7) such as data processing, communication, and transportation; supplies and materials; equipment; books and periodicals (table 8); and utilities. These represent the items purchased for current operations by colleges and universities. Prices for these items are obtained from salary surveys conducted by various national higher education associations, the Bureau of Labor Statistics, and the National Center for Education Statistics; and from components of the Consumer Price Index (CPI) and the Wholesale Price Index (WPI) published by the U.S. Department of Labor, Bureau of Labor Statistics.

The quantities of these goods and services have been kept constant based on the 1971–72 buying pattern of colleges and universities. The weights assigned the various items priced, which represent their relative importance in the current-fund

educational and general budget, are estimated national averages (table A). Variance in spending patterns of individual institutions from these national averages reduces only slightly the applicability of the HEPI to any given institutional situation. Modest differences in the weights attached to expenditure categories have little effect on overall index values. This is because the HEPI is dominated by the trend in faculty salaries and similar salary trends for other personnel hired by institutions, which absorbs or diminishes the effects of price changes in other items purchased in small quantities. (This topic is further discussed in the appendix which also presents separate price data and indexes by institutional type and control.)

TABLE A

Composition by object category of current-fund educational and general expenditures in colleges and universities, and current direct expenditures for sponsored research and development in universities, estimate for fiscal year 1972

Category	Percent of total expenditures	
	Educational and general [1]	Sponsored research
PERSONNEL COMPENSATION		
1.0 Professional salaries	58.0	45.7
1.1 Faculty	42.2	17.3
1.2 Research associates	0	15.1
1.3 Graduate assistants	2.7	10.2
1.4 Other professional, non-doctoral	0	3.1
1.5 Extension and public service personnel	2.6	0
1.6 Administration and institutional services personnel	8.5	0
1.7 Library personnel	2.0	0

See footnote at end of table.

TABLE A—Continued

Category	Percent of total expenditures	
	Educational and general [1]	Sponsored research
2.0 Nonprofessional wages and salaries	15.0	14.3
2.1 Technicians	1.5	7.0
2.2 Craftsmen	1.0	2.4
2.3 Clerical	5.4	2.4
2.4 Students	2.0	2.5
2.5 Service	4.0	0
2.6 Operators and laborers	1.1	0
3.0 Fringe benefits	9.0	7.0
CONTRACTED SERVICES, SUPPLIES, AND EQUIPMENT		
4.0 Services	7.3	16.0
4.1 Data processing and equipment rental	1.4	2.9
4.2 Communication	1.5	.8
4.3 Transportation	.7	2.0
4.4 Printing and duplication	.5	.8
4.5 Miscellaneous services	3.2	8.4
4.6 Consultants and other professional	0	1.1
5.0 Supplies and materials	3.5	7.0
6.0 Equipment	2.5	10.0
7.0 Books and periodicals	1.7	0
8.0 Utilities	3.0	0
Total	100.0	100.0

[1] *Excluding* expenditures for sponsored research.

Source: See reference cited in text footnote 1, pp. 40–44.

Research and Development Price Index

The Research and Development Price Index (R&DPI), reported in table 2, measures changes in prices of goods and services bought by universities through current direct expenditures for sponsored research. Indirect costs or overhead charges apportioned to research (e.g., expenditures for general administration, operation and maintenance of the physical

plant, etc.) are excluded from the price index which is designed specifically to price only immediate research activities. Also excluded are major expenditures for expensive scientific equipment and furnishings (generally charged as an indirect cost), and separately budgeted investment in physical plant and permanent fixed equipment.

The direct expenditures for sponsored research priced by the R&DPI are listed in table A, and, as with the HEPI, consist of salaries and wages for professional and nonprofessional personnel, fringe benefits, contracted services, supplies and materials, and equipment (tables 3–7). "Research associates" and "other professional, nondoctoral" are additional occupational categories priced; also added is a "consultants and other professional" contracted services category. The table A weightings show that sponsored research requires nearly twice the relative amount of contracted services, supplies and materials, and equipment as does college and university current educational and general operations.

Boeckh Construction Index

There is no price index specifically designed to price new construction of college and university physical facilities.[3] However, the Boeckh Division of the American Appraisal Company computes an index for apartments, hotels, and office buildings in the $200,000 to $5 million cost range which does appear applicable to the academic and general supporting facilities on college campuses.

The Boeckh Index (table 9) is a fixed-weight input index of wage rates and building material prices weighted together in

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[3] About 30 percent of the floor area of campus buildings is devoted to classrooms, laboratories, and special educational uses. Offices and study areas take up 20 percent of building space as do general and supporting facilities such as museums, auditoriums, theaters, garages, and hospitals. Residential facilities account for 30 percent of the floor area.

Source: U.S. Department of Health, Education, and Welfare, Office of Education, *Inventory of Physical Facilities in Institutions of Higher Education Fall 1969*, U.S. Government Printing Office, Washington, D.C. 1974.

accordance with their importance to the cost of a unit of construction in the 1967 base period. The index covers the structural portion of buildings and all plumbing, heating, lighting, and elevators. The index measures construction with *fixed* specifications, the bill of 55 material items being extremely thorough and complete. Wage rates are based on detailed job specifications for 19 construction occupations. Material and labor costs are computed monthly based on actual transaction prices paid. The material-labor weights, constant since 1967, are material, 51.7 percent; labor, including contractor's overhead, profit, and contingency funding, 48.3 percent.

Capital Equipment Index

The Capital Equipment Index (table 9) prices equipment purchased through investment of plant funds which generally consists of all types of *movable* property of a permanent nature, much of which is purchased for immediate installation in new buildings. *Permanently affixed* furniture, machinery, appurtenances, and appliances constructed as part of the building are not classified equipment. Current fund, as opposed to plant fund, expenditures for equipment usually involve *small* items added to the equipment inventory subsequent and apart from the building construction program.

The general categories of capital equipment purchased by colleges and universities are office and classroom furniture, office machines and equipment, laboratory equipment, and general purpose machinery and equipment. More detailed item identification and relative weightings are currently not available. The four broad categories have therefore been priced by suitable proxy price series for major components of the Wholesale Price Index (WPI). These WPI components include many equipment items of the type purchased by colleges and universities.

Construction and Equipment Index

The index for investment of plant funds (table 9) is a composite of the new construction and equipment indexes.

Land purchases by colleges and universities represent less than 4 percent of plant fund new investment and cannot be priced for index purposes. Through 1971–72, plant fund expenditures were proportioned between those for new building construction and for equipment at a remarkably consistent 79 percent—21 percent split. Beginning in 1972–73, and "linked" to the earlier price series in 1971–72, index weights are—construction, 74 percent; and equipment, 26 percent. These new index weights (79:21 to 74:26) are based on the extent to which a changed budget mix represents an actual increase in the *quantity* of equipment purchased relative to the *quantity* of new buildings constructed. Evidently beginning in 1972–73, colleges and universities felt compelled by the skyrocketing costs of new construction to build fewer facilities and to better furnish what was built with more equipment.

Student Charges Data

Price series for resident undergraduate tuition and for room and board charges are presented for public and private universities, 4-year colleges, and 2-year colleges (table 10). Prices are based on charges at the *same* institutions weighted with *fixed* 1967 enrollments. Composite charges for all public and all private institutions have been computed—weighted according to the proportional enrollment of each type of institution. The sampling procedure employed is outlined in the table footnotes.

PRICE TRENDS

Trends in prices affecting colleges and universities (and the Consumer Price Index for comparison purposes) are presented in table B and figure A. The table shows index values based on reference year 1971 equals 100.0, and also percent changes in index values from the preceding year to the present year.

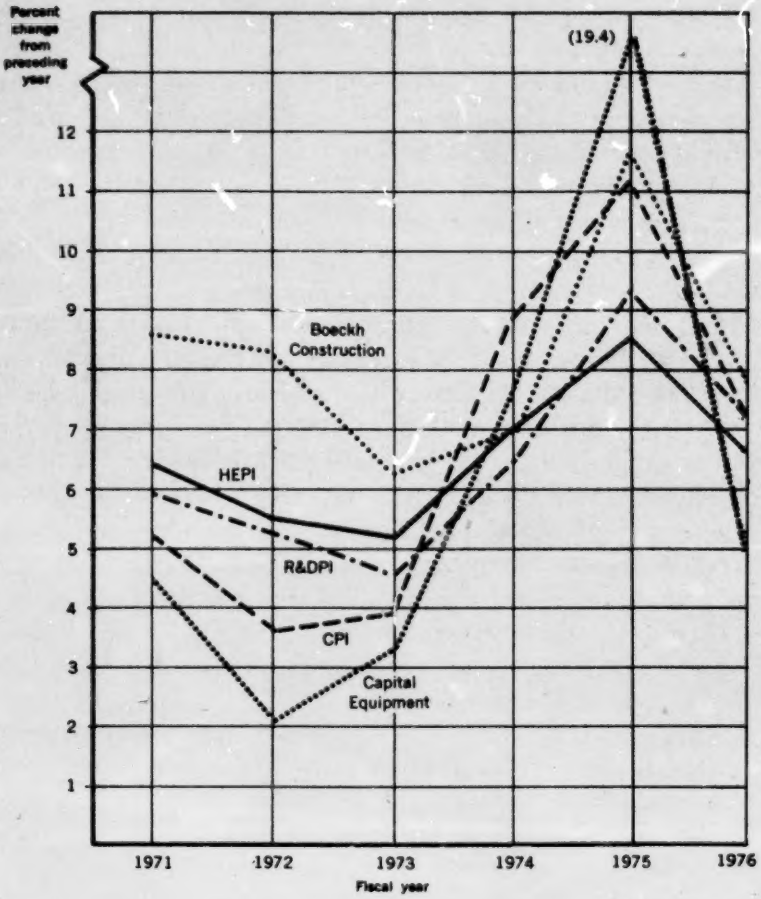
TABLE B

Higher education price indexes and CPI based on reference year 1971 = 100, and annual percent changes, fiscal years 1971–76

1971=100 [Percent changes from preceding year shown in parentheses]

Fiscal year	HEPI	R&DPI	CPI	Boeckh	Capital Equipment
1971	100.0 (6.4)	100.0 (5.9)	100.0 (5.2)	100.0 (8.6)	100.0 (4.6)
1972	105.6 (5.6)	105.4 (5.4)	103.6 (3.6)	108.2 (8.2)	102.1 (2.1)
1973	111.2 (5.3)	110.3 (4.7)	107.7 (3.9)	114.9 (6.2)	105.2 (3.1)
1974	119.1 (7.1)	117.4 (6.5)	117.3 (8.9)	122.7 (6.8)	113.4 (7.8)
1975	129.2 (8.6)	128.4 (9.4)	130.4 (11.2)	137.0 (11.6)	135.4 (19.4)
1976	137.8 (6.6)	137.6 (7.1)	139.6 (7.1)	147.5 (7.7)	142.0 (4.9)

Figure A.—Higher education price indexes and CPI, percent changes from preceding year, fiscal years 1971–76.



Current Operations

In the early 60's inflation for the general consumer was what now appears to be a very modest 1 to 1½ percent a year. Colleges and universities on the other hand were experiencing twice this rate, the cost of conducting current operations increasing nearly 4 percent yearly. Throughout the decade both rates rose steadily reaching a peak in 1970. The gap between the two sectors also narrowed, with colleges facing 6.9 percent inflation in 1970 compared with 5.9 percent for the general consumer.

The next three years, 1971–73, saw a hopeful decline in inflation, but almost as if to catch up, price increases in 1974 and 75 were the greatest on current record. For higher education the 2-year increase was 16.2 percent, while the general consumer faced an explosive 21 percent price hike. Also, beginning in 1974 for the first time, the rate of inflation for higher education was *less* than that for the general consumer. This reversal has continued during the last three years.

This year inflation has declined, with colleges and universities experiencing a more typical 6.6 percent increase (the compound annual rate from 1967 through 1976 is 6.6 percent). As viewed in perspective, this current rate appears normative and projection of future inflation for budgeting purposes might reasonably average 6 to 7 percent yearly.

Again, as in the past, colleges and universities have partially isolated themselves from inflation in the general economy by restricting faculty salary increases. Since 1971, salaries paid faculty and other professionals have increased at an annual compound rate of 4.9 percent, substantially less than the 6.9 percent yearly inflation rate for the economy as measured by the Consumer Price Index. If institutions had raised salaries to keep pace with the CPI, they would have experienced an annual inflation rate in current operations of 7.7 percent rather than the actual 6.6 percent rate measured by the Higher Education Price Index. Thus colleges and universities have been able to forestall about 1 percent inflation per year by holding faculty salary increases to less than the price rise faced by general consumers.

Currently, the greatest price increases for current operations

have occurred for books and periodicals, up 14.7 percent since last year, and fringe benefits, up 10.7 percent since 1975. Note that the worst offenders last year—utilities, supplies and materials, and equipment—show much smaller price increases this year. This attenuation in large measure accounts for the decline in inflation for current operations in FY 1976 compared to FY 1975.

The meaning of these inflation statistics as well as the impact of unemployment on college budgets is carefully analyzed in a report "Recent Developments in the Finance of Postsecondary Education" by Donald C. Cell in the 1976 summer issue of the AAUP *Bulletin* (also reprinted as *Nearly Keeping Up: Report on the Economic Status of the Profession, 1975–76,* AAUP). The Cell article also addresses causes of inflation, the faculty's current declining share of the college budget, and comments on retrenchment and economizing.

Research and Development

Since both the Higher Education Price Index and the Research and Development Price Index are constructed using many common price series, the previous commentary regarding price movements for current operations applies also to research and development. Again, as last year, the annual rate of price increase for R&D exceeded that for current operations, although by a much smaller amount and for an entirely different reason. Last year, FY 1974 to FY 1975, the greater rate of inflation for R&D was attributable to the large 15.3 percent price increase for contracted services, supplies and materials, and equipment —heavy investments in research. This year, FY 1975 to FY 1976, price increases for these items averaged a much lower 6.2 percent. However, professional salaries at *universities,* which constitute 45.7 percent of total R&D purchases, increased 6.6 percent compared to the 5.2 percent increase in professional salaries at *all* institutions paid for current operations. Thus, inflation in R&D exceeded that of current operations this year as a result of universities increasing faculty salaries more than the average salary increase for all institutions.

TABLE C

Higher Education Price Index and major component subindexes, percent changes from preceding year, fiscal years 1971–76

[Number code in parentheses identifies category as outlined in table A]

Fiscal year	Personnel compensation				Contracted services, supplies, and equipment						Higher Education Price Index [3]
	Professional salaries (1.0)	Nonprofessional wages and salaries (2.0)	Fringe benefits (3.0)	Total [1]	Services (4.0)	Supplies and materials (5.0)	Equipment (6.0)	Books and periodicals (7.0)	Utilities (8.0)	Total [2]	
1971	5.0	7.8	10.8	6.2	5.4	3.7	4.0	19.9	10.5	6.3	6.4
1972	3.9	7.3	11.2	5.5	6.0	2.1	3.7	13.1	6.8	5.9	5.6
1973	4.5	6.0	9.7	5.5	4.4	3.3	3.1	8.1	5.4	4.7	5.3
1974	5.1	6.3	12.3	6.4	4.7	13.2	6.1	10.3	22.7	9.9	7.1
1975	5.6	8.0	8.6	6.6	8.8	24.8	18.0	12.4	28.3	16.8	8.6
1976	5.2	8.1	10.7	6.6	4.8	4.6	5.9	14.7	8.0	6.8	6.6

[1] Personnel compensation total index based on weighted average as follows: professional salaries, 70.7 percent; nonprofessional wages and salaries, 18.3 percent; and fringe benefits, 11.0 percent.

[2] Contracted services, supplies, and equipment total index based on weighted average as follows: services, 40.56 percent; supplies and materials, 19.44 percent; equipment, 13.89 percent; books and periodicals, 9.44 percent; and utilities, 16.67 percent.

[3] HEPI based on weighted average as follows: personnel compensation, 79.3 percent; contracted services, supplies, and equipment, 20.7 percent. [See reference cited in text footnote 1, pp. 23–25, for corrections made to table A weights (82.0 and 18.0 percent) to derive adjusted values used.]

New Construction and Capital Equipment

Inflation in new construction continued to be high, with FY 1976 prices up 7.7 percent over last year. At the average 8.1 percent compound rate of inflation since 1971, it would take a delay of only 9 years to double the cost of a new building! Needless to say, institutions should make every effort to speed the planning of new facilities to the extent of adding extra financial support to early development work. For example, speeding up the planning costs by 6 months on a two million dollar building would save $80,000 at current inflation rates.

From FY 74 to FY 75 the price of capital equipment rose a staggering 19.4 percent. This year, FY 76 prices were only 4.9 percent higher than in FY 75. It is interesting to note from figure A that the inflation rate for capital equipment is the most volatile of the rates plotted, dropping to a low extreme of 2.1 percent during FY 1971–72 and rising to a high extreme of 19.4 percent in FY 1974–75. On the other hand, the Higher Education Price Index for current operations shows the most stable yearly rates of change.

Student Consumer Prices

As pointed out in the *1975 Supplement,* student charges, even national aggregated data, show considerable variation in year-to-year changes. It is therefore erroneous to draw serious inference from the magnitude of yearly changes in tuition or room and board. Real trends are more likely recognized from rates of change compounded over an extended time period. Table D presents such rates of change for the 3-year period FY 1974 through FY 1977 together with various tuition ratios for 1967, 1974, and 1977.

The tuition trends found noteworthy from study of table D are the following. Among the six sector-type classifications, public universities have best held the line on tuition, averaging only 4.0 percent increase per year. This rate is substantially below the 7.4 percent yearly increase in prices (HEPI) paid by universities and colleges for current operations. It is remark-

able that in this age of continuing inflation, State supported universities have been able to hold tuition increases for the past three years to average just $24 annually.

At the other extreme, public 2-year colleges incurred the greatest relative increase in tuition, a jump of 28.8 percent in three years. This change has tended to narrow the tuition range at public institutions with the ratio of university to 2-year college charges declining from 1.8 in 1974 to 1.6 in 1977.

The private sector showed marked increases in tuition, averaging $211 more per year at universities, and $172 at 4-year colleges. In both instances these additions *increased* the "tuition gap" with the public sector. The ratio of private to public university tuition increased from 4.1 in 1974 to 4.6 in 1977; the 4-year college ratio increased from 4.3 to 4.5.

The more modest increase in tuition at private 2-year colleges improved their competitiveness with public counterparts, the "tuition gap" narrowing from a ratio of 4.1 to 3.8. Also, because private 2-year colleges increased their tuition much less than private universities and 4-year colleges, the price differentials within the private sector increased from 1.0:1.5:1.8 in 1974 to 1.0:1.6:2.0 in 1977.

As previously cautioned, trends should not be interpreted from single year changes in student charges. Yet a decided downturn in tuition increases for 1977 can be noted for three of the institutional groupings, the others exhibiting a steady trend. At public universities, 1977 tuition was only 3.0 percent higher than in 1976. At public 4-year colleges it was 3.4 percent higher, and at private 2-year colleges only 2.4 percent higher. Also, at all institutions room and board charges increased far less in 1977 than in previous years. Perhaps this moderation of prices in the face of recent past and expected future inflation is continuing evidence that colleges and universities give little heed to actual costs in setting student charges.

TABLE D

Changes in student tuition and room and board charges for the 3-year period FY 1974–77, and tuition ratios for 1967, 74, and 77, by type and control of institution.

TUITION INCREASES FY 74-77	Compound annual rate	Average yearly amount	Current 1977 level
Public 2-year colleges	8.8%	+$31	$411
Private 4-year colleges	8.2%	+$172	$2,455
Private universities	8.1%	+$211	$3,025
Public 4-year colleges	6.9%	+$33	$549
Private 2-year colleges	5.5%	+$76	$1,531
Public universities	4.0%	+$24	$661
HEPI (FY 73–76)	7.4%		

TUITION RATIOS

	Private to public			Between types: Public			Between types: Private		
	1967	1974	1977	1967	1974	1977	1967	1974	1977
Universities	4.3	4.1	4.6	1.5	1.8	1.6	1.9	1.8	2.0
4-year colleges	4.0	4.3	4.5	1.2	1.4	1.3	1.4	1.5	1.6
2-year colleges	3.4	4.1	3.8	1.0	1.0	1.0	1.0	1.0	1.0

ROOM AND BOARD INCREASES FY 74-77	Compound annual rate	Average yearly amount	Current 1977 level
Private 2-year colleges	7.0%	+$75	$1,236
Private universities	6.9%	+$96	$1,591
Private 4-year colleges	6.4%	+$76	$1,354
Public universities	6.2%	+$75	$1,347
Public 4-year colleges	3.8%	+$41	$1,152

Source: Table 10.

Higher Education Price Index and major component subindexes, fiscal years 1971–76

1967=100 [Number code in parentheses identifies category as outlined in table A]

Fiscal year	Personnel compensation				Contracted services, supplies, and equipment						Higher Education Price Index [3]	Annual percent increase over previous year
	Professional salaries (1.0)	Nonprofessional wages and salaries (2.0)	Fringe benefits (3.0)	Total [1]	Services (4.0)	Supplies and materials (5.0)	Equipment (6.0)	Books and periodicals (7.0)	Utilities (8.0)	Total [2]		
1971	127.5	126.9	162.0	131.2	119.3	110.3	115.1	144.8	114.6	118.6	128.6	6
1972	132.5	136.1	180.2	138.4	126.4	112.6	119.4	163.8	122.4	125.6	135.8	5
1973	138.4	144.3	197.7	146.0	131.9	116.3	123.1	177.0	129.0	131.5	143.0	5
1974	145.4	153.4	222.0	155.3	138.1	131.6	130.6	195.3	158.3	144.5	153.1	7
1975	153.6	165.7	241.0	165.5	150.2	164.2	154.1	219.5	202.9	168.8	166.2	8
1976	161.6	179.1	266.7	176.4	157.4	171.8	163.2	251.8	219.1	180.2	177.2	6

[1] Personnel compensation total index based on weighted average as follows: professional salaries, 70.7 percent; nonprofessional wages and salaries, 18.3 percent; and fringe benefits, 11.0 percent.

[2] Contracted services, supplies, and equipment total index based on weighted average as follows: services, 40.56 percent; supplies and materials, 19.44 percent; equipment, 13.89 percent; books and periodicals, 9.44 percent; and utilities, 16.67 percent.

[3] HEPI based on weighted average as follows: personnel compensation, 79.3 percent; contracted services, supplies, and equipment, 20.7 percent [See reference cited in text footnote 1, pp. 23-25, for corrections made to Table A weights (82.0 and 18.0 percent) to derive adjusted values used.]

TABLE 2

Research and Development Price Index and major component subindexes, fiscal years 1971–76

1967=100 [Number code in parentheses identifies category as outlined in table A]

Fiscal year	Personnel compensation				Contracted services, supplies, and equipment				R&D Price Index [3]	Annual percent increase over previous year
	Professional salaries (1.0)	Nonprofessional wages and salaries (2.0)	Fringe benefits (3.0)	Total [1]	Services (4.0)	Supplies and materials (5.0)	Equipment (6.0)	Total [2]		
1971	125.9	126.4	162.0	129.8	124.5	110.1	116.5	119.0	126.2	5.
1972	131.6	134.7	180.2	137.3	131.3	112.6	121.4	124.3	133.0	5.
1973	136.1	142.5	197.7	143.9	137.4	117.3	125.5	129.6	139.2	4.
1974	142.4	151.7	222.0	152.7	144.4	134.0	133.9	139.0	148.2	6.
1975	150.6	164.6	241.0	163.0	154.4	168.8	163.7	160.3	162.1	9.
1976	160.5	177.5	266.7	175.2	165.3	176.8	173.6	170.3	173.6	7.

[1] Personnel compensation total index based on weighted average as follows: professional salaries, 68.21 percent; nonprofessional wages and salaries, 21.34 percent; and fringe benefits, 10.45 percent.

[2] Contracted services, supplies, and equipment total index based on weighted average as follows: services, 48.5 percent; supplies and materials, 21.2 percent; and equipment, 30.3 percent.

[3] R&D Price Index based on weighted average as follows: personn compensation, 67.0 percent (professional salaries, 45.7 percer nonprofessional wages and salaries, 14.3 percent; fringe benefi 7.0 percent); contracted services, supplies, and equipment, 33 percent (services, 16.0 percent; supplies and material, 7.0 percer and equipment, 10.0 percent.)

TABLE 3

Subindexes of salaries of professional personnel used for the HEPI and R&DPI, fiscal years 1971-

1967=100 [Number code in parentheses identifies category as outlined in table A]

Fiscal year	HEPI faculty (1.1)	R&DPI faculty (university) (1.1)	Research associates (1.2)	Graduate assistants (1.3)	Other professional, nondoctoral			Extension and public service personnel (1.5)	Administration and institutional services personnel (1.6)	Library personnel (1.7)	Profession salaries tot	
					Chemists	Engineers	Total [1] (1.4)				HEPI [2] (1.0)	R&D (1.
1971	127.2	126.1	125.8	125.8	125.0	124.8	124.9	127.2	est. 129.2	est. 128.5	127.5	1
1972	131.7	130.6	132.4	132.4	131.4	131.3	131.4	131.7	135.8	135.1	132.5	1
1973	137.4	134.8	136.8	136.8	136.3	138.0	137.0	137.4	est. 143.3	est. 142.2	138.4	1
1974	144.4	141.2	142.8	142.8	146.0	145.5	145.8	144.4	150.8	149.4	145.4	1
1975	152.3	148.6	151.0	151.0	160.7	157.7	159.2	152.3	est. 160.7	est. 157.1	153.6	1
1976	161.1	158.1	160.9	160.9	171.3	168.4	169.9	161.1	163.8	165.0	161.6	1

[1] Other professional, nondoctoral total index based on equally weighted average of chemist and engineer salaries.

[2] HEPI professional salaries total index based on weighted average as follows: faculty, 72.76 percent; graduate assistants, 4.66 percent; extension and public service personnel, 4.48 percent; administration and institutional services personnel, 14.66 percent; and library personnel, 3.44 percent.

[3] R&DPI professional salaries total index based on weighted average as follows: faculty (university), 37.9 percent; research associates, 33.0 percent; graduate assistants, 22.3 percent other professional, nondoctoral, 6.8 percent.

Sources: American Association of University Professors; C and University Personnel Association; U.S. Department of Comm Bureau of Labor Statistics; U.S. Department of Health, Educ and Welfare, Office of Education.

TABLE 4

Indexes and dollar amounts of faculty salaries and fringe benefits, by academic rank, fiscal years 1971–76

1967=100 [Number code in parentheses identifies category as outlined in table A]

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
SALARIES [1]—ALL INSTITUTIONS (HEPI 1.1)									
1971	$18,314	127.2	$13,792	127.4	$11,347	126.9	$9,084	127.5	[2] 127.2
1972	18,913	131.3	14,266	131.7	11,765	131.6	9,520	133.7	131.7
1973	19,751	137.1	14,887	137.5	12,289	137.4	9,873	138.6	137.4
1974	20,798	144.4	15,641	144.4	12,872	144.0	10,344	145.2	144.4
1975	21,870	151.9	16,495	152.3	13,578	151.9	11,005	154.5	152.3
1976	23,233	161.3	17,449	161.1	14,336	160.3	11,607	163.0	161.3
SALARIES [1] —UNIVERSITIES [3] (R&DPI 1.1)									
1971	$19,600	125.6	$14,380	126.5	$11,760	126.5	$9,020	125.8	[4] 126.1
1972	20,250	129.7	14,920	131.2	12,200	131.2	9,490	132.4	130.6

1973	20,900	133.9	15,380	135.3	12,610	135.6	9,810	136.8	13
1974	21,900	140.3	16,130	141.9	13,190	141.8	10,240	142.8	14
1975	23,100	148.0	16,950	149.1	13,830	148.7	10,830	151.0	14
1976	24,590	157.5	18,060	158.8	14,670	157.7	11,540	160.9	15

FRINGE BENEFITS[5]—ALL INSTITUTIONS (HEPI AND R&DPI 3.0)

1971	$2,084	153.9	$1,538	160.9	$1,300	166.2	$1,002	179.9	[6]162
1972	2,314	170.9	1,703	178.1	1,440	184.1	1,149	206.3	18
1973	2,486	183.6	1,884	197.1	1,601	204.7	1,263	226.8	19
1974	2,744	202.7	2,127	222.5	1,811	231.6	1,441	258.7	22
1975	3,006	220.0	2,329	243.6	1,957	250.3	1,519	272.7	24
1976	3,343	246.9	2,576	269.5	2,151	275.1	1,690	303.4	26

[1] Average salary for full-time faculty based on standard 9-month academic year.

[2] Faculty total index for all institutions (HEPI 1.1) is a weighted average based on the proportion of total faculty salaries paid to each academic rank in 1971–72 as follows: professors, 34.5 percent; associate professors, 25.2 percent; assistant professors, 30.2 percent; and instructors, 10.1 percent.

[3] Approximately 150 universities in AAUP Category I which "includes institutions which offer the doctorate degree and which conferred in the most recent three years an annual average of fifteen or more earned doctorates covering a minimum of three nonrelated disciplines."

[4] Faculty total index for universities (R&DPI 1.1) is a weighted average based on the proportion of total faculty salaries paid in 1971–72 to each academic rank engaged in R&D as follows: professors, 44.3 percent; associate professors, 28.8 percent; assistant professors, 22.7 percent; and instructors, 4.2 percent.

[5] Fringe benefits are estimated by subtracting AAUP salaries from AAUP compensation data.

[6] Weighted average based on the proportion of total fringe benefits paid to each academic rank in 1971–72 as follows: professors, 34 percent; associate professors, 24.8 percent; assistant professors, 30.4 percent; and instructors, 10.0 percent.

Source: American Association of University Professors, relevant issues of the *AAUP Bulletin*.

TABLE 5

Annual salaries of administrative officers in colleges and universities, fiscal years 1972–76

[Number code in parentheses identifies category as outlined in table A]

Position	1971–72	1973–74	1975–76
Index number 1966–67 = 100 (1.6)	135.8	150.8	163.8
Mean for all positions	$17,215	$19,112	$20,763
Chief executive officer (pres)	29,805	32,612	35,337
Chief academic officer	23,771	26,308	28,161
Registrar	14,373	15,896	17,877
Director of admissions	15,178	16,919	18,972
Director, computer center	17,119	19,212	20,613
Chief business officer	21,387	23,862	25,372
Purchasing agent	13,119	14,580	16,309
Director, personnel services	15,317	17,565	18,695
Director, physical plant	15,039	16,840	18,251
Comptroller	16,537	18,528	19,707
Chief development officer	19,961	21,561	23,585
Chief public relations officer	15,892	17,484	19,293
Director, information office	13,211	14,977	16,276
Chief student life officer	19,355	21,320	22,931
Director, student placement	14,103	15,479	16,591
Director, student financial aid	12,447	14,002	15,849
Director, student counseling	16,046	17,767	19,159

Note: Salary data are for full-time employees based on 12 months of service and exclude fringe benefit payments. The 1975–76 data are based on 1,138 institutional responses. Individual position salaries are mean values. Excluded are administrative positions for auxiliary enterprise operations; e.g., director of food services, student housing, student union, athletics, and bookstore manager.

Source: College and University Personnel Association, relevant issues of the *Administrative Compensation Survey*, Washington, D.C.

TABLE 6

Subindexes of wages and salaries of nonprofessional personnel used for the HEPI and R&DPI, fisc
years 1971–76

1967 = 100 [Number code in parentheses identifies category as outlined in table A]

Fiscal year	Technicians			Craftsmen (2.2)	Clerical (2.3)	Students (2.4)	Service (2.5) (HEPI only)	Operators and laborers (2.6) (HEPI only)	Nonprofessiona wages and salari total (2.0)	
	Engi-neering	Drafts-men	Total [1] (2.1)						HEPI [2]	R&DI
1971	125.9	123.4	125.5	127.9	125.7	128.1	128.0	128.1	126.9	126
1972	132.3	132.3	132.7	137.9	133.4	138.5	138.7	138.5	136.1	134
1973	138.5	140.5	140.0	146.6	140.6	147.2	148.0	147.2	144.3	142
1974	146.8	149.9	148.2	157.9	149.6	157.7	156.0	157.7	153.4	151
1975	160.0	161.9	159.6	est. 172.1	164.0	est. 171.9	164.0	est. 171.9	165.7	164
1976	173.0	173.9	172.0	est. 186.2	176.0	est. 186.0	178.7	est. 185.0	179.1	17

[1] Technicians total index based on weighted average as follows: engineering technicians, 50 percent; draftsmen, 25 percent; and electronic data processing personnel (see table 7 for price series), 25 percent.

[2] HEPI nonprofessional wages and salaries total index based on weighted average as follows: technicians, 10.0 percent; craftsmen, 6.7 percent; clerical, 36.0 percent; students, 13.3 percent; servi 26.7 percent; and operators and laborers, 7.3 percent.

[3] R&DPI nonprofessional wages and salaries total index based weighted average as follows: technicians, 48.9 percent; craftsm 16.8 percent; clerical, 16.8 percent; and students, 17.5 perce

25

TABLE 7

Subindexes of contracted services used for the HEPI and R&DPI, fiscal years 1971–76

1967=100 [Number code in parentheses identifies category as outlined in table A]

Fiscal year	Data processing and equipment rental				Communication (4.2)	Transportation (4.3)	Printing and duplication (4.4)	Miscellaneous services (4.5)	Consultants other professional services (4.6) (R&DPI only)	Services total HEPI [3] (4.0)	Services total R&DPI [3] (4.0)
	Edp personnel salaries	Edp hardware	Total [1] HEPI (4.1)	Total [1] R&DPI (4.1)							
1971	126.8	98.5	107.0	115.5	108.1	135.6	119.7	126.4	128.6	119.3	124.5
1972	133.8	101.9	111.5	121.0	117.4	143.2	126.5	133.4	134.3	126.4	131.3
1973	142.6	105.2	116.4	127.6	120.8	146.3	132.1	140.6	139.2	131.9	137.4
1974	149.4	106.0	119.0	132.0	126.1	148.2	140.1	149.5	147.2	138.1	144.4
1975	156.4	110.4	124.2	138.0	132.2	153.3	159.9	161.9	154.9	150.2	154.4
1976	168.0	115.8	131.5	147.1	140.5	170.8	153.7	172.7	165.5	157.4	165.

[1] Data processing and equipment rental total index based on weighted average as follows: HEPI—edp personnel salaries, 30 percent; edp hardware, 70 percent. R&DPI—edp personnel salaries, 60 percent; edp hardware, 40 percent.

[2] HEPI services index total based on weighted average as follows: data processing and equipment rental, 19.2 percent; communication, 20.55 percent; transportation, 9.6 percent; printing and duplication, 6.85 percent; and miscellaneous services, 43.8 percent.

[3] R&DPI services index total based on weighted average as follows: data processing and equipment rental, 18.1 percent; communication, 5.0 percent; transportation, 12.5 percent; printing and duplication, 5.0 percent; miscellaneous services, 52.5 percent; and consultants and other professional services, 6.9 percent.

TABLE 8

Average prices and indexes for U.S. hardcover books and periodicals, and foreign monographs, fiscal years 1971–76

1967 = 100 [Number code in parentheses identifies category as outlined in table A]

Year		U.S. hardcover books		U.S. periodicals		Foreign monographs[1]		Total book and periodical index[3] FY (7.0)
Calendar	Fiscal	Average price CY	Index[3] FY	Average price CY	Index[3] FY	Average price FY	Index[3] FY	
1970	1971	$11.66	146.9	$10.41	139.9	.....		144.8
1971	1972	13.25	166.9	11.66	156.7	$4.65	[4] 163.8	163.8
1972	1973	[5] 12.99	[5] 173.3	13.23	177.8	5.37	189.2	177.0
1973	1974	[5] 12.20	[5] 179.8	16.20	217.7	5.89	207.5	195.3
1974	1975	14.09	207.6	[6] 34.55	238.0	6.42	226.1	219.5
1975	1976	16.19	238.6	38.94	268.2	7.59	267.4	251.8

[1] All hardcover books, paperbacks, and pamphlets purchased during the fiscal year by the Library of Congress from approximately 100 foreign countries.

[3] Weighted average based on the estimated proportion of the total acquisition budget expended for each category. Weights used—U.S. hardcover books, 55 percent; U.S. periodicals, 30 percent; and foreign monographs, 15 percent.

[3] Indexes are not fixed-weight indexes and reflect changes in the type and mix of books and periodicals from year-to-year. The fiscal year index refers to average price in the previous calendar year due to the normal time delay between published date and purchase.

[4] The total book and periodical index value of 163.8 was assigned to foreign monographs to introduce this price series without effect in FY 1972. The foreign monographs indexes as a result have no relevance to 1967 = 100.

[5] Beginning in 1972 and completed in 1973, *Publishers Weekly* converted from pricing hardcover books per title (a set of books under one title is priced as a single entry) to pricing per volume. This discontinuity has been avoided by adjusting 1972 prices upward (x 1.059) and linking the 1973–75 price series (x 1.17) to an estimated long term price trend of hardcover books based on information provided by book wholesalers.

[6] Beginning in 1974, and linked to the previous Brown price series, U.S. periodicals are priced on a 1-year subscription basis by the F.W. Faxon Co. based on 29 Authority Groups weighted according the the number of libraries among Faxon's clients that subscribe to each title in each group.

Source: Prices of hardcover books are based on tabulations recorded in the "Weekly Record" section of *Publishers Weekly*. Not included are mass-market paperbacks, government documents, and certain multivolume encyclopedias. Published in *The Bowker Annual of Library and Book Trade Information*, R.R. Bowker, New York.

U.S. periodical prices for 1970–74 are prepared by Norman B. Brown based on a total group of 3,151 titles published in the July issues of the *Library Journal*. Since 1974, U.S. periodicals are priced by the F. W. Faxon Co. and reported by F. F. Clasquin in the October issues of *Library Journal*.

Foreign monographs are priced according to an unpublished price series prepared by the Library of Congress.

TABLE 9

Price indexes of building construction and capital equipment purchased by colleges and universities, fiscal years 1971–76

1967=100

Fiscal year	Boeckh Construction Index [1]	Capital Equipment Index [2]	Construction and Equipment Index [3]
1971	134.7	115.5	130.7
1972	145.7	117.9	139.9
1973	154.8	121.5	147.6
1974	165.3	131.0	158.0
1975	184.5	156.4	179.0
1976	198.7	164.0	191.6

[1] The Boeckh apartments, hotels, and office buildings index compiled by the Boeckh Division of the American Appraisal Company, Inc., and reported in *Construction Review*, published monthly by the U.S. Department of Commerce.

[2] For equipment, a weighted average of the following items from the Wholesale Price Index network: commercial furniture, 40 percent; office and store machines and equipment, 25 percent; general purpose machinery and equipment, 30 percent; and machinery and equipment, 5 percent.

[3] Weighted average as follows: through FY 1972, construction, 79 percent; equipment, 21 percent. Beginning in FY 1973, and "linked" to the earlier price series in FY 1972, construction, 74 percent; equipment 26 percent.

TABLE 10

Fixed weight average resident undergraduate student charges and indexes, by institutional type and control, fiscal years 1967, 1974–77

PUBLIC INSTITUTIONS

Fiscal year	Total tuition, room and board				Tuition and fees				Room and board			
	All	University	4-year [1]	2-year [2]	All [3]	University	4-year [1]	2-year [2]	All [4]	University	4-year [1]	2-year
	Amount											
1967	$1,077	$1,184	$987	([5])	$302	$350	$287	$237	$775	$834	$700	([5])
1974	1,517	.....	.....	.....	478	.....	.....	.....	.....	.....	.....	.....
1974	1,498	1,711	1,382	.....	459	588	450	319	1,039	1,123	932	.....
1975	1,617	1,827	1,517	.....	489	621	488	337	1,128	1,206	1,029	.....
1976	1,768	1,962	1,679	.....	523	642	531	379	1,245	1,320	1,148	.....
1977	1,808	2,008	1,698	.....	546	661	549	411	1,262	1,347	1,152	.....
	Index 1967=100											
1967	100.0	100.0	100.0	([5])	100.0	100.0	100.0	100.0	100.0	100.0	100.0	([5])
1974	140.9	144.5	140.0	.....	158.3	168.0	156.8	134.6	134.1	134.7	133.1	.....
1975	152.1	154.3	153.7	.....	168.6	177.4	170.0	142.2	145.5	144.6	147.0	.....
1976	166.3	165.7	170.1	.....	180.4	183.4	185.0	159.9	160.6	158.3	164.0	.....
1977	170.1	169.6	172.0	.....	188.3	188.9	191.3	173.4	162.8	161.5	164.6	.....

See footnotes at end of table.

TABLE 10—Continued

PRIVATE INSTITUTIONS

Fiscal year	Total tuition, room and board				Tuition and fees				Room and board			
	All	University	4-year [6]	2-year [7]	All [5]	University	4-year [6]	2-year [7]	All [5]	University	4-year [6]	2-year
	Amount											
1967	$2,126	$2,487	$1,998	$1,593	$1,231	$1,489	$1,146	$796	$895	$998	$852	$79
1974	3,212	3,693	3,063	2,333	2,039	2,393	1,938	1,323	1,173	1,302	1,125	1,01
1975	3,416	3,883	3,276	2,528	2,170	2,533	2,074	1,377	1,246	1,350	1,202	1,15
1976	3,728	4,283	3,556	2,716	2,364	2,741	2,267	1,514	1,364	1,542	1,289	1,20
1977	3,994	4,616	3,809	2,787	2,572	3,025	2,455	1,551	1,422	1,591	1,354	1,23
	Index 1967=100											
1967	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.
1974	151.1	148.5	153.3	146.5	165.6	160.7	169.1	166.2	131.1	130.5	130.2	126.
1975	160.7	156.1	164.0	158.7	176.3	170.1	181.0	173.0	139.2	135.3	141.1	144.
1976	175.4	172.2	178.0	170.5	192.0	184.1	197.8	190.2	152.4	154.5	151.3	150.
1977	187.9	185.6	190.6	175.0	208.9	203.2	214.2	194.6	158.9	159.4	158.9	155.

[1] Public 4-year colleges with 1966–67 enrollment greater than 2,000 students. California State Colleges and City University of New York (CUNY) colleges charging nominal tuition "fees" and well above average room and board charges (California) are excluded.

[2] Public 2-year colleges with 1966–67 enrollment greater than 1,000 students. Public 2-year colleges in California and in the City University of New York System charging nominal tuition "fees" are excluded.

[3] Tuition values for *all* public institutions are fixed weight averages based on full-time equivalent 1972–73 student enrollments as follows: universities, 2,066,650 FTE students (37.1 percent); 4-year colleges, 1,712,488 (30.8 percent); and 2-year colleges, 1,787,600 (32.1 percent). Prior to 1974 (and linked to the above series in 1974) tuition values for all public institutions fixed averages based on full-time equivalent 1956–67 student enrollment as follows: universities, 1,476,669 (43.0 percent); 4-year colleges, 1,149,198 (33.4 percent); and 2-year colleges, 812,667 (23.6 percent).

[4] Room and board values for *all* public institutions are fixed weight averages based on full-time equivalent 1966–67 student enrollments at public universities, 1,476,669 (56.2 percent); and public 4-year colleges, 1,149,198 (43.8 percent). Few of the 812,667 students attending public 2-year colleges contract for room and board. Income for housing and food services at public 2-year colleges amounte only 3.8 percent of the total in the public sector in 1966–67. C sequently, excluding 2-year college room and board charges in calculation of values for all public institutions introduces mini inaccuracy.

[5] Many public 2-year colleges primarily serving commuting dents living at home do not provide room and board services. Char published by the Beta Club have not been reported with suffici consistency for the 1961–75 period to establish a valid trend.

[6] A random sample of private 4-year colleges with 1966–67 enr ment greater than 1,000 students.

[7] Private 2-year colleges with 1966–67 enrollment greater t 200 students.

[8] Values for *all* private institutions are fixed weight averages ba on full-time equivalent 1966–67 student enrollments as follo private universities, 543,351 (32.2 percent); private 4-year colleg 1,019,915 (60.4 percent); and private 2-year colleges, 124,2 (7.4 percent). Only slight shifts in this attendance pattern h occurred. The 1972–73 FTE student enrollment in the private sec is as follows: universities, 564,115 (31.0 percent); 4-year colleg 1,147,727 (63.1 percent); and 2-year colleges, 105,780 (percent).

APPENDIX—PRICE INDEXES BY INSTITUTIONAL TYPE AND CONTROL

The Higher Education Price Index (HEPI) is based on national averages—both the item weights and the price series used. The expenditure pattern of individual institutions and the prices experienced in some locations may differ markedly from these averages. Variance in the weightings or budget proportions spent for various items is not particularly significant because the HEPI is dominated by the trend in faculty salaries and similar salary trends for other personnel services. Variance in prices may be more critical, although it should be remembered that *absolute* differences in prices do *not* affect price index values—only price *changes*. Therefore, the substantial difference in salary levels that may exist between a private university in the East, for example, and a public college in the Midwest is not necessarily a factor in determining their respective rates of inflation. Furthermore, many hardware items purchased by colleges and universities are subject to common market conditions or standardized pricing on a national basis which tend to minimize geographical price change differentials.

Where real differences in rates of price change occur, institutions may experience substantially greater or less inflation than that measured by national averages. Yet this event is more likely to be a short term phenomenon than a long range trend. Local deviations in price changes from national averages tend to balance out, with the price series for individual colleges approaching, over time, the trends for all institutions as measured by the HEPI. An individual institution, for example, cannot long lag behind national pay rate increases and still remain competitive.

Although the HEPI is a valid and applicable measure of general inflation for most colleges and universities, some institutions may feel special circumstances warrant calculation of their own index based on selected price series and weighting according to a distinct expenditure pattern. Also, to be alert to possible deviant trends in prices for identifiable groups of institutions, there is some justification for maintaining separate price series for universities, 4-year colleges, and 2-year colleges by sector. At present, the only known published price data subclassified in this manner are salaries and fringe benefits surveyed by the American Association of University Professors. The data presented in table A–2 indicate that during the 5-year period FY 1971–76, faculty salaries increased least (4.2 percent compounded annually) for church-related institutions awarding only the baccalaureate or equivalent degree (AAUP category IIB), and most (6.3 percent compounded annually) for public 2-year colleges without academic ranks (AAUP category IV). Faculty and fringe benefits increased least (7.3 percent compounded annually) for private universities (AAUP category I), and most (17.3 percent compounded annually) for public 2-year colleges without academic ranks (AAUP category IV).

What impact do these differences have if incorporated in specialized institutional group price indexes? The indexes, otherwise computed using the HEPI price series and weights, are shown in table A-1. The previously noted differences are obviously less distinct. With the exception of the high 8-percent compounded annually price increases for public AAUP category IIB [1] and IV institutions, price increases for all other institutional groups ranged from 6 to 7 percent compounded annually. The comparable rate of increase for the HEPI was 6.6 percent. Thus, with two exceptions, incorporation of two specialized price series—faculty salaries and fringe benefits—by institutional type and control group, results in an approximate ± 0.5 percent maximum difference in annual price change compared to the HEPI for the FY 1971-76 period.

[1] Note the sizeable 12.5 percent inflation for public category IIB institutions for FY 1975–76. Contributing was a 17.5 percent hike in professor salaries.

TABLE A–1

Current fund educational and general expenditures[1] price indexes, by institutional type and control, fiscal years 1971–76

Fiscal year	All institutions (HEPI)	Public institutions				
		Category I	Category IIA	Category IIB	Category III	Category IV
1971	100.0	100.0	100.0	100.0	100.0	100.0
1972	105.6	105.9	105.5	107.3	105.6	105.3
1973	111.2	110.5	111.6	112.4	110.4	114.3
1974	119.1	118.4	120.4	119.8	119.2	121.5
1975	129.2	128.4	131.8	130.6	128.6	136.1
1976	137.8	137.4	140.6	146.9	138.1	148.0

	Private institutions			Church-related institutions		
	Category I	Category IIA	Category IIB	Category I	Category IIA	Category IIB
1971	100.0	100.0	100.0	100.0	100.0	100.0
1972	105.3	105.9	106.7	104.7	105.3	105.3
1973	110.3	111.6	112.2	111.0	110.6	111.0
1974	117.3	117.0	119.4	117.2	117.1	117.5
1975	126.9	127.8	129.6	127.9	127.5	127.2
1976	135.3	134.7	138.4	135.4	135.7	134.7

[1] Excludes expenditures for sponsored research.

Notes.—These specialized institutional type-control price indexes for current-fund educational and general expenditures are computed using the HEPI price series and weighting pattern presented in tables 1, 3, 5, 6, 7, and 8, with the exception that data from table A-2 is substituted for faculty salaries (item 1.1) and fringe benefits (item 3.0).

AAUP institutional type category descriptions:

Category I—includes institutions which offer the doctorate degree and which conferred in the most recent 3 years an annual average of 15 or more earned doctorates covering a minimum of 3 nonrelated disciplines.

Category IIA—includes institutions awarding degrees above the baccalaureate but not included in Category I.

Category IIB—includes institutions awarding only the baccalaureate or equivalent degree.

Category III—includes 2-year institutions with academic ranks.

Category IV—includes institutions without academic ranks. (With the exception of a few liberal arts colleges, this category includes mostly 2-year institutions.)

TABLE A–2

Faculty salaries and fringe benefits, amounts and indexes, by academic rank and by AAUP institu
tional type and control, fiscal years 1971–76

ALL INSTITUTIONS

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index [1]
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
	Salary								
1971	$18,314	100.0	$13,792	100.0	$11,347	100.0	$9,084	100.0	100.0
1972	18,913	103.3	14,266	103.4	11,765	103.7	9,520	104.8	103.5
1973	19,751	107.8	14,887	107.9	12,289	108.3	9,873	108.7	108.0
1974	20,798	113.6	15,641	113.4	12,872	113.4	10,344	113.9	113.5
1975	21,870	119.4	16,495	119.6	13,578	119.7	11,005	121.1	119.7
1976	23,233	126.9	17,449	126.5	14,336	126.3	11,607	127.8	126.7
	Fringe Benefits								
1971	$2,084	100.0	$1,538	100.0	$1,300	100.0	$1,002	100.0	100.0
1972	2,314	111.0	1,703	110.7	1,440	110.8	1,149	114.7	111.2
1973	2,486	119.3	1,884	122.5	1,601	123.2	1,263	126.0	122.0
1974	2,744	131.7	2,127	138.3	1,811	139.3	1,441	143.8	137.0
1975	3,006	144.2	2,329	151.4	1,957	150.5	1,519	151.6	148.8
1976	3,343	160.4	2,576	167.5	2,151	165.5	1,690	168.7	164.6

PUBLIC INSTITUTIONS

For AAUP category descriptions see table A–1

CATEGORY I

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index[1]
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
				Salary					
1971	$19,150	100.0	$14,350	100.0	$11,760	100.0	$8,970	100.0	100.0
1972	19,820	103.5	14,870	103.6	12,190	103.7	9,430	105.1	103.7
1973	20,470	106.9	15,290	106.6	12,580	107.0	9,730	108.5	106.9
1974	21,581	112.7	16,066	112.0	13,201	112.3	10,154	113.2	112.4
1975	22,680	118.4	16,880	117.6	13,850	117.8	10,770	120.1	118.1
1976	24,150	126.1	18,010	125.5	14,690	124.9	11,510	128.3	125.8
				Fringe benefits					
1971	$1,930	100.0	$1,470	100.0	$1,270	100.0	$1,000	100.0	100.0
1972	2,250	116.6	1,670	113.6	1,420	111.8	1,140	114.0	114.5
1973	2,340	121.2	1,800	122.4	1,540	121.3	1,210	121.0	121.5
1974	2,648	137.2	2,071	140.9	1,770	139.4	1,391	139.1	138.8
1975	2,860	148.2	2,230	151.7	1,910	150.4	1,510	151.0	149.2
1976	3,180	164.8	2,470	168.0	2,110	166.1	1,630	163.0	165.9

PUBLIC INSTITUTIONS (Continued)

CATEGORY IIA

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index [1]
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
	Salary								
1971	$17,420	100.0	$13,830	100.0	$11,440	100.0	$9,220	100.0	100
1972	17,850	102.5	14,140	102.2	11,800	103.1	9,540	103.5	102
1973	18,980	109.0	15,000	108.5	12,470	109.0	10,130	109.9	108
1974	20,450	117.4	15,960	115.4	13,120	114.7	10,700	116.1	115
1975	21,550	123.7	16,890	122.1	13,920	121.7	11,420	123.9	122
1976	22,500	129.2	17,680	127.8	14,570	127.4	11,950	129.6	128
	Fringe benefits								
1971	$1,680	100.0	$1,370	100.0	$1,230	100.0	$970	100.0	100
1972	1,910	113.7	1,560	113.9	1,430	116.3	1,170	120.6	115
1973	2,020	120.2	1,710	124.8	1,550	126.0	1,300	134.0	124
1974	2,330	138.7	2,025	147.8	1,800	146.3	1,530	157.7	145
1975	2,800	166.7	2,380	173.7	2,020	164.2	1,640	169.1	168
1976	3,130	186.3	2,630	192.0	2,220	180.5	1,860	191.8	186

CATEGORY IIB

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index[1]
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
				Salary					
1971	$15,250	100.0	$12,590	100.0	$10,810	100.0	$8,910	100.0	100.0
1972	16,650	109.2	13,510	107.3	11,300	104.5	9,490	106.5	106.5
1973	17,000*	111.5	14,160	112.5	11,680	108.0	9,680	108.6	109.9
1974	17,360	113.8	14,430	114.6	12,120	112.1	10,180	114.3	113.5
1975	18,260	119.7	15,310	121.6	12,890	119.2	10,750	120.7	120.2
1976	21,460	140.7	17,340	137.7	14,350	132.7	11,740	131.8	135.4
				Fringe benefits					
1971	$1,190	100.0	$1,210	100.0	$1,120	100.0	$820	100.0	100.0
1972	1,550	130.3	1,350	111.6	1,240	110.7	1,040	126.8	117.7
1973	1,700	142.9	1,490	123.1	1,522	135.9	1,140	139.0	134.1
1974	2,030	170.6	1,830	151.2	1,640	146.4	1,100	134.1	150.2
1975	2,120	178.2	1,990	164.5	1,720	153.6	1,410	172.0	164.6
1976	3,010	252.9	2,530	209.1	2,160	192.9	1,790	218.3	213.4

*Adjusted to correct for change in reporting institutions.

PUBLIC INSTITUTIONS (Continued)

CATEGORY III

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index [1]
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
	Salary								
1971	$17,100	100.0	$14,120	100.0	$11,760	100.0	$9,760	100.0	100.
1972	18,060	105.6	14,570	103.2	12,350	105.0	10,200	104.5	104.
1973	18,860	110.3	15,250	108.0	12,870	109.4	10,310	105.6	108.
1974	19,519	114.1	16,078	113.9	13,672	117.4	10,878	111.5	114.
1975	20,410	119.4	16,860	119.4	14,420	122.6	11,640	119.3	120
1976	22,280	130.3	17,840	126.3	15,180	129.1	12,390	126.9	128
	Fringe benefits								
1971	$2,240	100.0	$1,750	100.0	$1,590	100.0	$1,270	100.0	100.
1972	2,380	106.3	1,890	108.0	1,690	106.3	1,370	107.9	107.
1973	2,720	121.4	2,180	124.6	1,990	125.2	1,490	117.3	112
1974	2,881	128.6	2,456	140.3	2,194	138.0	1,701	133.9	136
1975	3,030	135.3	2,520	144.0	2,260	142.1	1,680	132.3	139
1976	3,520	157.1	2,830	161.7	2,540	159.7	1,970	155.1	158

CATEGORY IV

Fiscal year	Salary		Fringe benefits	
	No rank, faculty total		No rank, faculty total	
	Amount	Index	Amount	Index
1971	$12,610	100.0	$900	100
1972	12,750	101.1	1,080	120
1973	14,030	111.3	1,300	144
1974	14,510	115.1	1,459	162
1975	15,660	124.2	1,880	208
1976	17,130	135.8	2,010	223

PRIVATE INDEPENDENT INSTITUTIONS

For AAUP category descriptions see table A–1

CATEGORY I

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
				Salary					
1971	$21,080	100.0	$14,640	100.0	$11,840	100.0	$9,290	100.0	10
1972	21,850	103.7	15,320	104.6	12,380	104.6	9,800	105.5	10
1973	22,500	106.7	15,850	108.3	12,820	108.3	10,240	110.2	10
1974	23,602	112.0	16,585	113.3	13,322	112.5	10,685	115.0	11
1975	24,970	118.5	17,480	119.4	13,910	117.5	11,160	120.1	11
1976	26,540	125.9	18,550	126.7	14,740	124.5	11,750	126.5	12
				Fringe benefits					
1971	$3,250	100.0	$2,130	100.0	$1,690	100.0	$1,120	100.0	10
1972	3,430	105.5	2,300	108.0	1,790	105.9	1,180	105.4	10
1973	3,730	114.8	2,530	118.8	1,940	114.8	1,380	123.2	11
1974	4,077	125.4	2,730	128.2	2,106	124.6	1,477	131.9	12
1975	4,260	131.1	2,810	131.9	2,120	125.4	1,480	132.1	13
1976	4,640	142.8	3,100	145.5	2,320	137.3	1,580	141.1	14

CATEGORY IIA

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
				Salary					
1971	$17,120	100.0	$13,390	100.0	$11,040	100.0	$9,070	100.0	10
1972	17,940	104.8	14,160	105.8	11,650	105.5	9,600	105.8	10
1973	18,680	109.1	14,730	110.0	12,200	110.5	10,030	110.6	10
1974	18,805	109.8	14,910	111.4	12,430	112.6	10,325	113.8	11
1975	20,390	119.1	16,010	119.6	13,150	119.1	10,910	120.3	11
1976	21,010	122.7	16,700	124.7	13,800	125.0	11,360	125.2	12
				Fringe benefits					
1971	$2,500	100.0	$1,870	100.0	$1,450	100.0	$1,010	100.0	10
1972	2,740	109.6	1,980	105.9	1,520	104.8	1,090	107.9	10
1973	2,990	119.6	2,230	119.3	1,750	120.7	1,210	119.8	11
1974	3,145	125.8	2,370	126.7	1,880	129.7	1,285	127.2	12
1975	3,350	134.0	2,590	138.5	2,000	137.9	1,360	134.7	13
1976	3,460	138.4	2,760	147.6	2,140	147.6	1,520	150.5	14

See footnote at end of table.

PRIVATE INDEPENDENT INSTITUTIONS—Continued

CATEGORY IIB

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index[1]
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
	Salary								
1971	$15,700	100.0	$12,130	100.0	$10,270	100.0	$8,790	100.0	100
1972	16,810	107.1	12,890	106.3	10,780	105.0	9,240	105.1	106
1973	17,500	111.5	13,330	109.9	11,220	109.3	9,640	109.7	110
1974	18,260	116.3	14,050	115.8	11,700	113.9	9,830	111.8	115
1975	19,310	123.0	14,720	121.4	12,330	120.1	10,620	120.8	121
1976	20,430	130.1	15,570	128.4	13,020	126.8	10,900	124.0	128
	Fringe benefits								
1971	$2,100	100.0	$1,610	100.0	$1,250	100.0	$910	100.0	100
1972	2,400	114.3	1,800	111.8	1,400	112.0	1,080	118.7	113
1973	2,630	125.2	2,020	125.5	1,600	128.0	1,110	122.0	125
1974	2,910	138.6	2,190	136.0	1,740	139.2	1,270	139.6	138
1975	3,130	149.0	2,320	144.1	1,830	146.4	1,410	154.9	147
1976	3,470	165.2	2,560	159.0	2,050	164.0	1,370	150.5	162

CHURCH-RELATED INSTITUTIONS

For AAUP category descriptions see table A–1

CATEGORY I

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
	Salary								
1971	$18,100	100.0	$13,930	100.0	$11,390	100.0	$9,030	100.0	10
1972	18,440	101.9	14,310	102.7	11,770	103.3	9,500	105.2	10
1973	19,220	106.2	14,990	107.6	12,270	107.7	9,970	110.4	10
1974	19,920	110.1	15,438	110.8	12,589	110.5	10,196	112.9	11
1975	20,910	115.5	16,270	116.8	13,370	117.4	10,900	120.7	11
1976	22,220	122.8	17,230	123.7	14,150	124.2	11,600	128.5	12
	Fringe benefits								
1971	$2,030	100.0	$1,600	100.0	$1,230	100.0	$910	100.0	10
1972	2,090	103.0	1,700	106.3	1,320	107.3	1,000	109.9	10
1973	2,480	122.2	2,000	125.0	1,590	129.3	1,170	128.6	12
1974	2,578	127.0	2,120	132.5	1,717	139.6	1,299	142.7	13
1975	2,830	139.4	2,380	148.8	1,960	159.3	1,560	171.4	14
1976	2,970	146.3	2,470	154.4	2,000	162.6	1,570	172.5	15

See footnote at end of table.

CHURCH-RELATED INSTITUTIONS—Continued

CATEGORY IIA

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Facul tota inde
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
				Salary					
1971	$15,430	100.0	$12,410	100.0	$10,390	100.0	$8,520	100.0	1(
1972	16,120	104.5	12,910	104.0	10,870	104.6	8,950	105.0	1(
1973	16,690	108.2	13,360	107.7	11,280	108.6	9,220	108.2	1(
1974	17,230	111.7	13,800	111.2	11,570	111.4	9,630	113.0	1
1975	18,280	118.5	14,790	119.2	12,410	119.4	10,260	120.4	1
1976	19,490	126.3	15,650	126.1	13,130	126.4	10,690	125.5	1
				Fringe benefits					
1971	$2,050	100.0	$1,630	100.0	$1,260	100.0	$940	100.0	1(
1972	2,110	102.9	1,680	103.1	1,340	106.3	1,000	106.4	1(
1973	2,310	112.7	1,880	115.3	1,500	119.0	1,100	117.0	1
1974	2,560	124.9	2,070	127.0	1,650	131.0	1,180	125.5	1
1975	2,720	132.7	2,030	124.5	1,800	142.9	1,270	135.1	1
1976	2,840	138.5	2,320	142.3	1,880	149.2	1,320	140.4	1

CATEGORY IIB

Fiscal year	Professors		Associate professors		Assistant professors		Instructors		Faculty total index
	Amount	Index	Amount	Index	Amount	Index	Amount	Index	
				Salary					
1971	$14,280	100.0	$11,520	100.0	$9,890	100.0	$8,360	100.0	10
1972	14,820	103.8	11,940	103.6	10,220	103.3	8,640	103.3	10
1973	15,440	108.1	12,390	107.6	10,560	106.8	8,920	106.7	10
1974	15,960	111.8	12,700	110.2	10,890	110.1	9,270	110.9	11
1975	16,760	117.4	13,390	116.2	11,430	115.6	9,720	116.3	11
1976	17,640	123.5	14,160	122.9	12,100	122.3	10,180	121.8	12
				Fringe benefits					
1971	$1,840	100.0	$1,410	100.0	$1,130	100.0	$790	100.0	10
1972	1,980	107.6	1,530	108.5	1,230	108.8	900	113.9	10
1973	2,280	123.9	1,770	125.5	1,410	124.8	1,010	127.8	12
1974	2,510	136.4	1,930	136.9	1,540	136.3	1,075	136.1	13
1975	2,640	143.5	2,050	145.4	1,620	143.4	1,150	145.6	14
1976	2,880	156.5	2,200	156.0	1,720	152.2	1,200	151.9	15

[1] The faculty total index for salaries and fringe benefits is an average of indexes for each academic rank weighted according to the proportion of total faculty salaries paid each rank as shown in table A-3.

Source: Summer issues of the *AAUP Bulletin* (Maryse Eymon Survey Director).

47

TABLE A–3

Estimated distribution of total faculty salaries paid each academic rank, by institutional type and control, fiscal year 1974

AAUP institutional category [2]	Percentage distribution of total faculty salaries paid [1]				Number of institutions submitting data
	Professor	Associate professor	Assistant professor	Instructor	
All institutions [3]	34.5	25.2	30.2	10.1	1,479
Public:					
I	44	27	24	5	106
IIA	31	28	32	9	242
IIB	20	25	37	18	85
III	17	25	39	19	185
Private independent:					
I	54	22	20	4	48
IIA	32	28	31	9	76
IIB	33	26	33	8	98
Church-related:					
I	37	27	29	7	15
IIA	29	29	33	9	100
IIB	28	27	35	10	281

[1] Percentage distribution of total salaries paid was estimated by multiplying distribution of full-time faculty members by corresponding salary amounts for each rank and comparing with total for all ranks.

[2] For AAUP category descriptions see table A–1.

[3] Data for all institutions is for fiscal year 1972.

Source: 1972 and 1974 Summer issues of the *AAUP Bulletin*.